

A NEW SPECIES OF THE GENUS *ORECTOGNATHUS*

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Subfamily **MYRMICINAE** LepeletierTribe **DACETINI** ForelSubtribe **ORECTOGNATHITI** BrownGenus **ORECTOGNATHUS** Fred. Smith**ORECTOGNATHUS NIGRIVENTRIS** sp. nov.

Worker. Length of head dorsally 1.05 mm. ; length of mandibles 0.64 mm. ; total length 4.25 mm. ; Weber's length 0.98 mm. ; cephalic index, 84 ; mandibular index, 61.

Monomorphic. Head in outline, viewed dorsally, cordiform ; posterior edge strongly but smoothly concave ; posterior half of lateral edges almost parallel, beginning to converge near eyes, and narrowing sharply in front of eyes ; anterior edge across clypeus straight to slightly concave ; exclusive of mandibles head longer than broad, broadest across posterior half. Viewed laterally along the line of head occipital lobe rises smoothly posteriorly and dips away evenly towards the eye ; centre of head rises in a smooth mound ; ante-ocular tooth sharp and distinct ; line of mandibles rises at an angle of about 20° to that of the head.

Mandibles viewed dorsally, straight and parallel in outline ; three-fifths length of head. Outer edges of mandibles slightly convex ; inner edges somewhat concave ; bearing at their insertions a tooth, the greater part of which is concealed beneath clypeus at full closure, and gives a broadening effect basally ; further broadening along anterior third which broadening is accentuated by the distinct preapical excision. Throughout the length of the inner mandibular border there is a medial excision, giving a quasi double-flange effect, especially noticeable and more distinct near the preapical broadening. Apical teeth sharp and recurved forming three-pronged fork ; dorsal-most tooth distinct, ventral pair conjoined to form quasi-secondary fork.

Clypeus transverse, slightly concave medially. Frontal area small and indistinct, with a faint frontal groove beginning at its posterior border and produced weakly posteriorly almost to the centre of head. Frontal carinae present, produced feebly behind eyes, but raised distinctly and slightly flattened in front of eyes ; bearing a sharp anteocular tooth, which projects vertically and somewhat laterally. Frontal carinae produced anteriorly along lateral margins of frontal lobes, which partly overlap clypeus and conceal antennal insertions. Antennae with four-segmented funiculus ; first segment almost twice as long as broad, and half the length of third segment ; second and fourth segments roughly equal in length, the apical one incrassate ; scape incrassate along apical third, failing to reach occipital border of lobes by about one third their length. Eyes large, placed almost medially, but slightly nearer anterior of head on lateral margins, and to the posterior-ventral limit of feeble scrobes. Central area of vertex of head raised in mound effect, falling away sharply posteriorly to the medially excised posterior margin ; dorsum of occipital lobes raised, ridge-like, and extending feebly forward almost to meet antennal carinae.

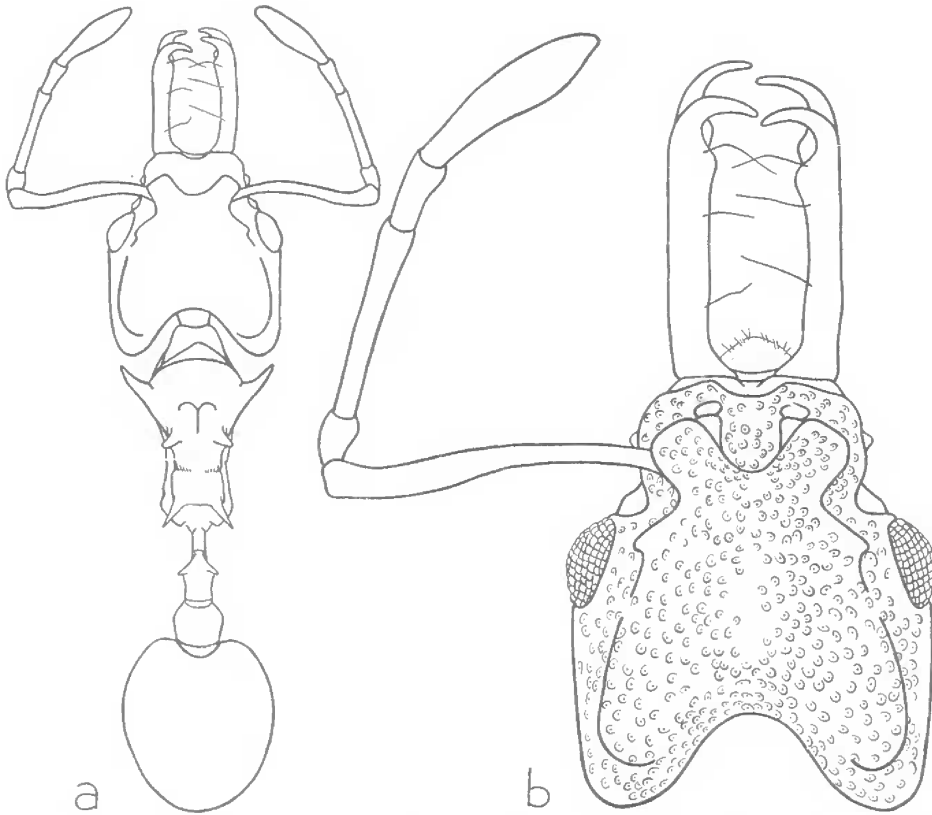


Figure 1.—*Orectognathus nigriventris* sp. nov. Holotype worker. a. Dorsal view. b. Dorsal view of head and mandibles.

Pronotum flat, with rounded, almost vertically sloping anterior face; bearing a pair of sharp lateral teeth rising from broad bases at sides and directed forwards and outwards; mesonotum raised with sharply sloping anterior and lateral faces, but sloping away evenly posteriorly to the constriction between it and the propodeum. Mesonotum bearing two pairs of distinct tubercles or teeth, anterior pair low, blunt and close together; separated by scarcely more than their thickness; posterior pair longer and more distinct, almost tooth-like and directed upwards and outwards; at least four times further apart than anterior pair. Metanotal groove deeply impressed, with mesonotum and propodeum bridged by rugae. Impression or constriction carries over down the sides of the alitrunk in the form of a distinct suture, separating the lateral faces of the mesonotum and propodeum. Dorsum of propodeum flat; declivity sloping away gently, feebly concave and almost equal to dorsum, with two vertical ridges or carinae low down over basal fourth forming guide-like flanges for stalk of node; propodeal teeth long, slender and sharp, directed outwards and recurved somewhat forwards, almost twice as long as the distance between the centres of their bases. The spiracle of the metapleural-lateral propodeal face is placed almost centrally below the base of the propodeal spine, raised slightly but not very distinct. The metapleural gland is present on the postero-lateral region of the same face in the form of a distinct swelling.

Petiole long and slender, rising gradually and thickening posteriorly ; stalk almost two-thirds total length ; node surmounted with two denticles or teeth, directed upwards, outwards and somewhat backwards ; postpetiole subspherical, broader than long and broader than node ; separated from node and gaster by constrictions. Gaster as usual for genus ; oval, longer than broad, narrower than head ; basal segment making up the greater part of its bulk ; apical segments crowded, somewhat ventrally directed.

The sculpture of the head, alitrunk, node and postpetiole consists of crowded but distinct punctulae ; coarser on the dorsum of the alitrunk and finer and shallower on the metapleural region of the pronotum, mesonotum, propodeum, and on the under sides of the stalk and node. Traces of rugae or striae on the anterior sloping faces of pronotum and mesonotum, and on the dorsum of the propodeum, carrying over on to the margins of the sloping declivity. Further rugae on the definite constriction between mesonotum and propodeum. Mandibles, apical half of pronotal and propodeal teeth and gaster smooth and shining, without distinct sculpture.

Pilosity is mainly in the nature of "ground pilosity," relatively short ; numerous hairs on the antennae, much less numerous on the dorsum of the head, throughout the alitrunk and on the gaster. Inner margins of mandibles each furnished with three specialised erect hairs. Teeth of mandibles carrying longer and more erect hairs.

Head and alitrunk red to reddish-brown, with some specimens lighter than holotype ; probably still in callow stages. Gaster black except for traces of gingerish red on anterior portion where it is joined to postpetiole. Apical segments of gaster also with traces of ginger. Mandibles yellow, but darkened on apical teeth and along inner margins. Antennal scapes brownish-red with traces of black ; legs, especially anterior portions of trochanter and femur, black to brownish-red.

The nearest congener to the above described species is *Orectognathus phyllobates* Brown. But *nigriventris* is a trifle more robust, especially the head which tends to be deeper, at least in larger individuals. Large teeth of body armament, especially the humeral and petiolar pairs, shorter, stouter and more nearly straight. The subapical expansions of the mandibles are also less well developed, so that the inner mandibular borders are less strongly concave in all sizes of workers. Post-petiolar node narrower and with straighter, more parallel sides. Less conspicuous adpressed pilosity on gastric dorsum. Colour of *nigriventris* is light ferruginous red ; gaster predominantly black to the naked eye. This combination of colours marks it off in the field from all of its congeners.

MEASUREMENTS OF TWENTY PARATYPES.—Length of head dorsally 0.96–1.08 mm. ; length of mandibles 0.64–0.68 mm. ; total length 4.08–4.58 mm. ; Weber's length 0.98–1.06 mm. ; cephalic index 84–88 ; mandibular index 59–67. There is little variation in this species. Larger workers tend to have disproportionately more massive heads and mandibles, with heavier subapical expansions of the mandibles. Minor variation exists in the length of various large teeth and tubercles of alitrunk and petiole, and in density of foveolate sculpture. Some paratypes are darker than described, the reddish forebody being in part lightly infuscated.

Alate Female. Length of head dorsally 1.10 mm. ; length of mandibles 0.64 mm. ; total length 4.88 mm. ; Weber's length 1.20 mm. ; cephalic index 87 ; mandibular index 58 ; length of fore-wing 3.00 mm. Like the worker, but with the usual sexual differences. In general larger, heavier and darker. Ocelli are quite distinct and black. Pronotum relatively narrower, mesonotum larger and higher but flattened dorsally ; lacking anterior pair of tubercles, posterior pair reduced to blunt tumuli ; scutellum present, convex ; pronotal and propodeal teeth not as distinctive, shorter and thicker. Sculpture coarser throughout, pilosity longer and overall colour much darker. Gaster uniformly black.

LOCALITIES.—Holotype and paratypes from a colony of some 45 workers at Dora Creek, Martinville, near Morisset (about 80 miles north of Sydney), New South Wales, 4th September, 1956.

Single alate female (described) from Como, New South Wales.

Three dealate females without brood from crevices of large cracked boulders in rain forest gullies, Galston Gorge, Cowan Creek and Calga, New South Wales.

The type nest was taken low down in the bed of a rain forest gully leading into Dora Creek, about two miles north-west of Martinsville. It was situated between the touching faces of two rocks, one lying on top of the other. The ants seemed to be clustered and they dispersed slowly on being disturbed, clinging tenaciously to the stone surface. This led to the queen being lost in the debris of the forest floor. The colony may have been an overwintering one.

MATERIAL DEPOSITED.—Holotype worker, 5 paratypes and female in collections of Queensland Museum. Paratypes in collections of Australian Museum, Sydney ; Museum of Comparative Zoology, Harvard, U.S.A. ; National Museum, Melbourne ; C.S.I.R.O., Canberra ; and collection of Mercovich, Sydney.

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